water or 80 per cent alcohol. In camphor water it should be watched, to make sure that no mould forms on it. Brains preserved in camphor water are to be preferred for further microscopic study.

Refer for description of the finer anatomy to *Anleitung beim Studium des Baues der nervösen Centralorgane im gesunden und kranken Zustande*, von Dr. H. Obersteiner, 1888. An English translation of this book is promised soon.

In addition to the books and articles mentioned above, the following may be referred to as embodying recent advances in the field of physiological psychology and as illustrating the value of experimental and clinical data to psychology: *Grundzüge der physiologischen Psychologie.* W. Wundt. 2 vols. Leipzig, 1887.—*Elements of Physiological Psychology.* Geo. T. Ladd. New York, 1887.—*La Psychologie physiologique.* G. Sergi. Paris (a translation from the Italian).—The following monographs of Ribot's (F. Alcan, Paris) are popular, but are to be recommended for a general view of the subjects treated: *Les maladies de la mémoire; Les maladies de la volonté; Les maladies de la personnalité; La psychologie de l'attention; La psychologie allemande contemporaine.* Most of these have been translated; the first forms one of the International Scientific Series; the next two are, I believe, in the "Humboldt Library," and the last is published by the Scribners under the title of "German Psychology of To-day."

It would yield the best results if any one interested in work of this nature would settle on some single topic and pursue that specially. As the above lines are merely suggestions, the author will most gladly answer any further questions that may arise regarding methods or apparatus. Pathological nervous material which may be consigned to the author will be examined and reported on with all due promptness.

HENRY H. DONALDSON.

CLARK UNIVERSITY, *June*, 1889.

Ueber optische Aphasia und Seelenblindheit. C. S. FREUND. Archiv f. Psychiatrie, Bd. XX, H. 1 und 2.

The connection of aphasia with disturbances in the visual centers has been noticed by several observers, and Wilbrand has touched on the probable explanation. Dr. Freund's object is to show that this "optical aphasia" is a distinct and independent kind. The seven cases which he gives (two of his own observation and five from the literature), allow the following general description. All showed cerebral defects of vision; in 4 right hemianopsia was demonstrated, in 1 (left-handed) left hemianopsia; and similar trouble was doubtless present in the other two. In five there was psychic blindness. Satisfactory tests for agraphia and alexia were wanting in most. The distinctive disturbances of speech were in all more or less clearly connected with the visual defects, the differences coming chiefly from the degree in which the "optical aphasia" was overlaid by the other kinds. In the simplest cases there was loss of nouns (their place being frequently taken by circumlocutions) and of the ability to name objects. At least two of the cases were helped by handling what they were to name; and to one words not to be given at request sometimes recurred spontaneously. The results of section, in the six cases in which it was made, show extensive lesions, generally in the occipital and tempero-occipital

lobes. Bilateral lesions were associated with psychic blindness, unilateral not.

The connection of these lesions with the language symptoms and others is made clearer by reference to a schema. It is to be supposed that the two visual centers in the left and right occipital lobes are connected by lines of fibers with the speech centers in the left temporal and frontal lobes, and by other lines, in which half of each retina is represented, with the eyes. Of the many possible lesions of these centers and tracts, three are of interest in this connection, namely, (1) the cutting of the fibers between the left visual center and the eyes and of those between the right visual center and the speech centers; (2) destruction of both visual centers; and (3) destruction of the left visual center and cutting of the fibers between the right visual center and the speech centers. (1) The first would represent the purest cases of "optical aphasia." The cutting of the first set of fibers would produce right hemianopsia and prevent the left visual center from receiving new visual impressions. Its connection with the speech centers would, however, still be in function and its optical memory images available for speech. The cutting of the second set of fibers would prevent the use in language of the images belonging to the right center. Now for undisturbed speech it is necessary not only that the sensory and motor images of the word, but also that those that form the concept of the thing for which the word stands, and the connections of the two sets, be intact. In spontaneous speaking there would be temporary difficulty in finding the nouns corresponding to new visual images (recorded only on the right side) or to the sense impressions of the instant. The patient would be unable to name objects shown him, though he could point them out when named, because the uninjured connections of the visual center with the other sensory centers would enable him to form full and concrete concepts of objects. In the same way naming would be facilitated by handling the objects, and there would be no psychic blindness. (2) The symptoms of the second kind of lesion would be total psychic blindness. The concepts would lack all their visual part, would be less concrete, the course of thought would thus be disturbed and consequently speech, while all the time the speech centers proper remained intact. Touch would give no help here. (3) The third kind of lesion would show right hemianopsia, non-recognition of objects formerly represented only in the left visual center, *i. e.* right-sided psychic blindness. Those represented in the right visual center could be recognized, but not named. Objects named could be pointed out and the patient would be helped by touch in naming, as in the first case.

The author concludes his paper with a general consideration of psychic blindness (of which he records an additional case in the first part of the paper), pointing out among other things that psychic blindness may result from a cutting of all the association fibers of the visual centers even when the cortex and its connection with the eyes are uninjured. Freund's cases greatly resemble a case reported in the *Neurolog. Centralbl.* No. 17, 1888 (see abstract, AM. JOUR. PSY. Vol. II, p. 175), by Bruns and Stölting, who came to very similar conclusions as regards the explanation of the disturbance. In a review in the same periodical, No. 4, 1889, Bruns brings out the points of divergence.